

REMARKS

This is in response to the Office Action mailed April 6, 2004, in which the Examiner rejected claims 6-9 and 11-21. Reconsideration of the application as amended is respectfully requested.

CLAIM REJECTIONS - 35 U.S.C. §102

In Section 2 of the Office Action, the Examiner rejected claims 11-15 under 35 U.S.C. §102(e) as being anticipated by Akagi et al. (U.S. Patent No. 6,130,797). Applicant respectfully believes that the rejections can be withdrawn for the reasons set forth below.

In rejecting independent claim 11, the Examiner found Akagi et al., at column 5, lines 35-42 and FIG. 1a, to disclose "a transducer (16) that follows virtual tracks . . . that are concentric to the axis of rotation of the medium and eccentric to the real tracks." [emphasis added] Applicant respectfully disagrees with the Examiner's assessment of the cited passage and figure of Akagi et al. As understood by those skilled in the art, the controlling of a position of the transducer to "follow" a track refers to maneuvering the position of the transducer relative to the position information contained on the storage medium. However, the cited portions of Akagi et al. do not describe the head (16) as being controlled to "follow" any tracks at all. Instead, "the position of the head 16 is fixed on the absolute coordinates by maintaining the current in a voice coil motor for driving the head 16 to be constant, the amplitude of the head movement is 0" as described in column 5, lines 35-38 [emphasis added]. Therefore, Applicant believes that the rejection can be withdrawn because the cited portions of Akagi et al. fail to disclose a method of controlling a position of a

"transducer to follow virtual tracks that are substantially concentric to the axis of rotation of the storage medium and are eccentric to the servo tracks", as described in independent claim 11. Additionally, Akagi et al. fail to describe such virtual track following as being "based upon discrete compensation values provided for each servo track." Therefore, Applicant submits that claim 11 is allowable even in view of the cited reference, and requests that the rejection be withdrawn.

Additionally, Applicant believes that claims 12-14 are allowable as being dependent from allowable base claim 11, and requests that the rejections be withdrawn.

The Examiner based the rejection of claim 15 on the same reasons set forth for independent claim 11 and its dependents. Applicant submits that claim 15 is allowable for the reasons set forth above because Akagi et al. fail to disclose "an element having . . . a control signal controlling a position of the transducer such that the transducer follows virtual tracks that are eccentric to the data tracks and substantially concentric to the axis of rotation of the disc based upon discrete compensation values provided for each servo track", as described in claim 15. Therefore, Applicant requests that the rejection be withdrawn.

In Section 3 of the Office Action, the Examiner rejected claims 6-9 and 16-20 under 35 U.S.C. §102(e) as being anticipated by Hasegawa et al. (U.S. Patent No. 6,128,153). Applicant respectfully believes that the rejections can be withdrawn for the reasons set forth below.

Applicant has amended independent claim 6 to describe each compensation equation as including "discrete compensation values representing repeatable runout (RRO) for one of the servo

tracks of one of the discs . . . ." Hasegawa et al. fail to disclose such compensation equations for each servo track. Rather Hasegawa et al. utilize Equation (1) to determine the compensation for the position of the head for all tracks. However, such an equation cannot be used to take into account additional compensation that may be required due to the changing skew of the head relative to the tracks as the head moves between the inner and outer diameter of the disc. Such a problem can be solved by the use of discrete compensation values at each of the servo tracks, as described in claim 6. Accordingly, Applicant submits that independent claim 6 is allowable even in view of the cited reference, and requests that the rejection be withdrawn. Additionally, Applicant submits that claims 7-9 and 16-18 are allowable as being dependent from allowable base claim 6, and requests that the rejections be withdrawn.

As with independent claim 6, independent claim 19 utilizes a plurality of compensation equations that include "discrete compensation values representing repeatable runout (RRO) of one of the servo tracks of one of the discs . . . ." As discussed above, Hasegawa et al. fail to disclose such compensation equations, or a device that includes such compensation equations. Therefore, Applicant submits that independent claim 19 is in condition for allowance and requests that the rejection be withdrawn. Additionally, Applicant submits that claims 20 and 21 are allowable as being dependent from allowable base claim 19, and requests that the rejections be withdrawn.

CLAIM REJECTIONS - 35 U.S.C. §103

In Section 6 of the Office Action, the Examiner rejected claim 21 under 35 U.S.C. §103(a) as being unpatentable over Hasegawa et al. in view of Applicant's admitted prior art. Applicant respectfully believes that claim 21 is allowable as being dependent from allowable base claim 19, and requests that the rejection be withdrawn.

NEW CLAIMS

With this Amendment, Applicant has submitted new claims 22-26. Independent claim 22 is directed to a servo control loop that includes compensation circuitry "having a compensation signal that is generated based upon discrete compensation values that represent repeatable runout (RRO) caused by eccentricity between the pre-written servo tracks and the axis of rotation of the disc at each of the servo tracks . . . ." Applicant respectfully believes that claim 22 is allowable even in view of Hasegawa et al. and Akagi et al. since neither reference teaches the claimed compensation circuitry.

Independent claim 25 is directed to a method of operating a disc drive that includes establishing virtual tracks and a reference position for a plurality of heads. Finally, the virtual tracks are identified based upon their position relative to the reference position. As a result, the method allows the disc drive to operate in a cylinder mode where, for example, the heads of the disc drive are simultaneously held over the same virtual track number. This allows the disc drive to remain at the same virtual track number between separate disc surfaces without moving the heads by simply switching the heads.

CONCLUSION

In view of the above comments and remarks, Applicant submits that the present application is in condition for allowance. Reconsideration and favorable action is respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: 

Brian D. Kaul, Reg. No. 41,885  
Suite 1600 - International Centre  
900 Second Avenue South  
Minneapolis, Minnesota 55402-3319  
Phone: (612) 334-3222 Fax: (612) 334-3312

BDK/djb